Pacific Packet Radio Society Newsletter

Volume 2 Number 4 April 1986

Pacific Packet Radio Society (PPRS)
Post Office Box 51562
Palo Alto, CA 94303

April 1st Meeting

7:30 PM at the Ampex Cafeteria, 411 Broadway, Redwood City

Fifth Annual ARRL Computer Networking Conference Update

Hank Magnuski, KA6M, will report on happenings at the recently held ARRL Computer Networking Conference. This conference has been the best national forum for discussing amateur packet radio, and this month's PPRS meeting will be your chance to find out what is going on nationally. *Also...* the usual combination of news, rumors, and reports on recent developments concerning packet operation in the bay area. *And...* a chance to meet with others with similar interests within the packet radio community.

FCC Autocontrol Actions

Hr ARRL Bulletin Nr 19 From ARRL Headquarters
Newington CT March 14, 1986
To All Radio Amateurs BT

VHF packet radio got a big boost today. At ARRL request, the FCC suspended parts of its rules to permit third party traffic by packet stations under automatic control. Several conditions are attached to the waiver. Provisions of Sec 97.80(b) and 97.114(b)4, which were both to be added to the rules March 14, are waived to permit Amateur stations retransmitting digital packet radio communications on 50 MHz and higher bands using AX.25 or compatible protocol to be operated under automatic control while retransmitting third party traffic.

This waiver applies only to the retransmission of third party traffic originated at another Amateur station which is under local or remote control. When an Amateur station is operated under automatic control, devices must be installed and procedures must be implemented which will ensure compliance with the rules when the control operator is not present at the control point of the Amateur station. This waiver will remain in effect until the Commission takes final action on the petitions for reconsideration filed in PR Docket 85 105.

Amateur packet operators must be alert to the increased dependency upon them for monitoring during the period of this waiver. They should immediately make known to the responsible control operator of an automatic packet station any misuse of his station so the licensee can take corrective action. In summary, VHF packet radio may continue under automatic control. AR

Amateur Packet Radio in West Germany

AI8A>PPRS:

At the recent CeBIT show held in Hanover, DARC had a booth and was demonstrating packet radio (in addition to satellite operation). They had a TAPR TNC1 with DED firmware set up, and could demonstrate amateur packet radio functions like keyboard QSOs and small file transfers to the thousands of computer people trekking through one of the "Telecommunications" halls.

The hams there reported that amateur packet radio is also experiencing rapid growth in Germany. The current biggest complaints: regulations permit the use of only one frequency (144.675) for packet and only up to two digipeaters in a contact.

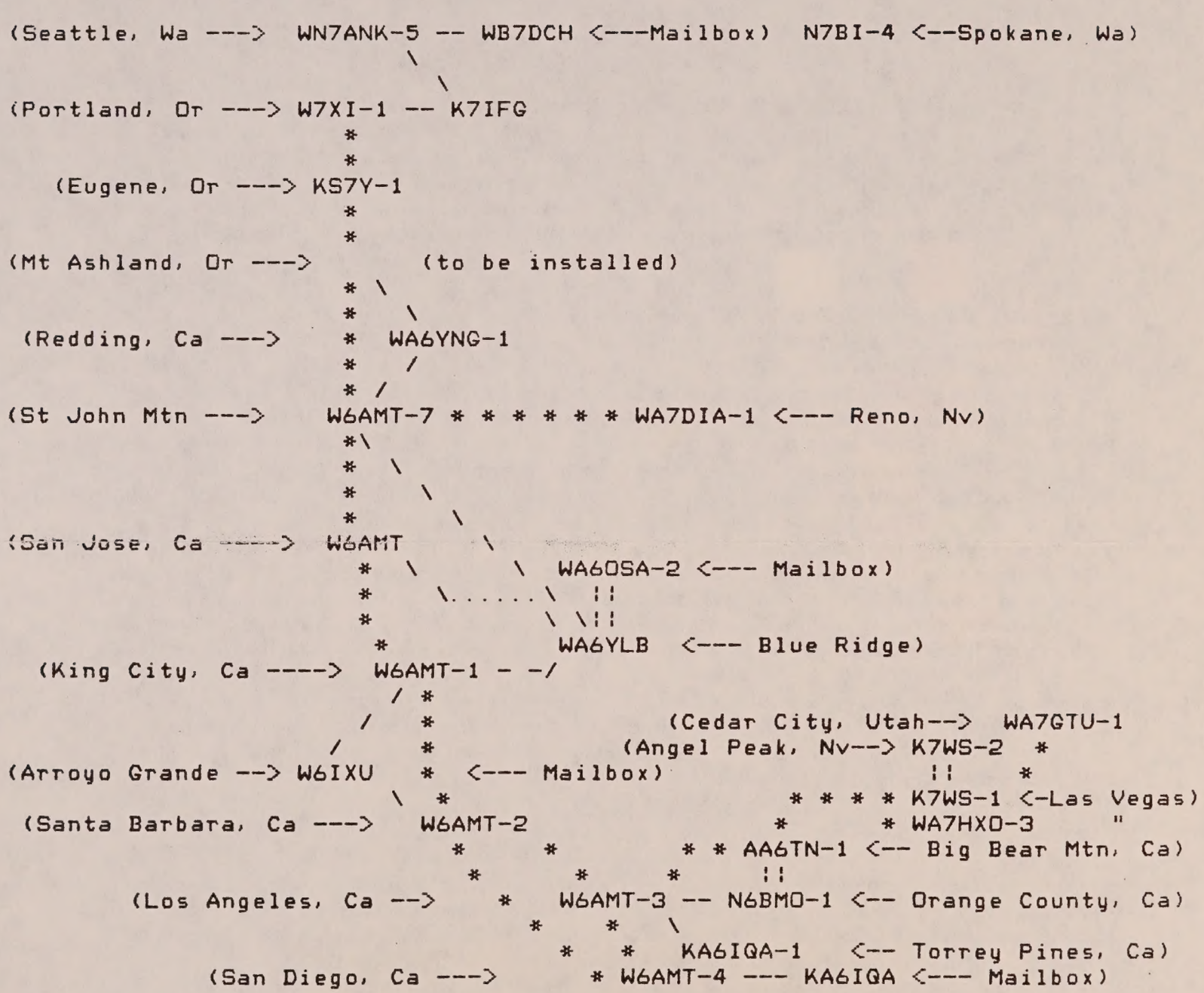
Call for Participation

AI8A>PPRS:

Articles and news notes are *eagerly* solicited for inclusion in the *PPRS Newsletter*. Also, we still need volunteers interested in presenting a talk at upcoming PPRS meetings. If you have a subject you would like to discuss, or have suggestions for topics or speakers, please let me know.

WESTNET MAP
145.01 MHz

Revised: February 23, 1986
Maintained by: WB6ASR @ W6AMT



* indicates primary path
- / !! indicates secondary and feeder paths

Updates are welcome.
Please send to: Greg Campbell, WB6ASR
AMT - W6AMT
P. O. Box 700174
San Jose, Ca. 95170
or via W6IXU mailbox.

TNC2 Command Summary

RADIO AMATEUR TELECOMMUNICATIONS SOCIETY
206 North Vivyen Street
Bergenfield, NJ 07621
Prepared by: Thomas A. Moulton, W2VY
28 January 1986

Command	Default	Description
8bitconv	OFF	Strip high-order bit when in convers mode
AUtolf	ON	Send Linefeed to terminal after each CR
AWlen	7	Terminal character length (7/8)
Ax2512v2	OFF	Run as version 1.0 of AX.25
AXDelay	0	(0-180 * 0.1 sec) Voice Repeater keyup delay
AXHang	0	(0-20 * 0.1 sec) Voice Repeater hang time
Beacon	E 0	Every/After 0-25 *10 sec.
BKondel	ON	Send BS SP BS for each DELETE character
BText		(120 char) Text to be sent for a beacon
BUdlist	OFF	Stations in Lcalls are ignored
CALibra		Used to calibrate the builtin modem
CALSet		Used with CALibrate
CANline	$18	(Control-X) The Line Delete character
CANPac	$19	(Ctrl-Y) Cancel current character
CHech	30	(0-250 * 10 sec) Idle link time out
CLKADJ	0	(0-65535) Real time clock adjustment constant
CMDtime	1	(0-255 sec) transparent mode escape timer
CMSG	OFF	Don't send CTEXT when user links to your TNC
COMmand	$03	Char to escape from CONVERS mode to command mode
CONMode	CONVERS	(or TRANS) Mode to enter when link established
Connect		Establish Link with station via optional stations
CONOk	ON	Allow stations to establish a link with your TNC
CONPerm	OFF	If ON always keep this link up (never Disconnect)
CONStamp	OFF	If ON print date & time stamp on connect messages
CStatus		Prints the status of all links (Streams)
CONVers		Enter Converse mode from command mode
CPactime	OFF	Don't forward data based on timers (see Pactime)
CR	ON	Append a Carriage Return to each data packet
CText		(120 Ch) Connect Message Text (see CMSG)
DAytime		Date and time for real time clock
DAYUsa	ON	Print date as mm/dd/yy instead of dd-mm-yy
DELete	OFF	The character delete is BS ($08) not DEL ($7F)
DIGipeat	ON	Allow stations to use you as a Digipeater
Disconne		Request a link disconnect from the other station
Display		(Async/Character/Id/Monitor/Timing) Parameters
DWait	16	(0-250 * 10 msec) Delay to let digipeater repeat
Echo	ON	Echo characters typed on keyboard to terminal
EScape	OFF	Don't translate ESC character ($1B) to $ ($24)
Flow	ON	Don't print to terminal while user is typing
FRack	3	(1-15 sec) Time needed to ack a packet per station
FUlldup	OFF	Operate in Simplex mode
HEaderln	OFF	Print the frame header and text on the same line
HID	OFF	Don't send an ID packet every 9.5 mins when active
ID		Force an ID packet (UI frame Via UNproto path)

LCALLS		(0-8 calls) to receive or ignore stations (BUDLIST)
LCok	ON	Do not convert lower case to UPPER CASE on terminal
LCSTREAM	ON	Convert the stream select specifer to Upper case
LFadd	OFF	Add a Line Feed after each CR send to the terminal
MAll	ON	Monitor data frames as well as beacons
MAXframe	4	The window size for outstanding frames
MCOM	OFF	Monitor only data frames instead of all types
MCon	OFF	Don't monitor frames when linked to another station
MFilter		Up to 4 characters to be removed from monitored data
MHClear		Clear the calls Heard list
MHeard		Display the calls heard and date/time if clock set
Monitor	ON	Monitor mode on - see BUDLIST, MALL, MCON, MSTAMP
MRpt	ON	Display the digipeater path in monitored frames
MStamp	OFF	Monitored frames are Not time stamped
MYAlias		An identifier for a digipeater
MYcall	NOCALL	The station callsign for ID and linking
NEwmode	OFF	The TNC acts like a TNC 1 for changing modes
NOmode	OFF	If ON allow explicit mode change only
NUcr	OFF	Don't send NULLS ($00) after a CR
NULf	OFF	Don't send Nulls after a LF
NULLS	0	(0-30) Number of nulls to send as requested
Paclen	128	(0-255,0=256) size of the data field in a data frame
PACTime	After 10	(Every/After 0-250 *100 ms) Data forwarding timer
PARity	3 (even)	(0-3) Terminal parity 0,2=None 1=odd 3=even
PASs	$16	(CTRL-V) char to allow any character to be typed
PASSAll	OFF	Accept only frames with valid CRCs
RECOnnect		Like Connect but to restablish a link via a new path
REDisplay	$12	(CTRL-R) char to print the current input buffer
RESET		RESET bbRAM PARAMETERS TO DEFAULTS
RESptime	12	(0-250 * 100 ms) minimum delay for sending an ACK
RESTART		Perform a power on reset
RETry	10	(0-15) maximum number of retries for a frame
Screenln	80	(0-255) Terminal output width
SEndpac	$0D	(CR) Char to force a frame to be sent
STArt	$11	(CTRL-Q) the XON for data TO the terminal
STOp	$13	(CTRL-S) the XOFF for data TO the terminal
STREAMCa	OFF	Don't show the callsign after stream id
STREAMDbl	OFF	Don't print the stream switch char twice
STReamsw	$7C	Character to use to change streams (links)
TRAce	OFF	Hexidecimal trace mode is disabled
TRANS		The TNC enters Transparent data mode
TRFlow	OFF	Disable flow control to the Terminal (Trans mode)
TRIes		(0-15) set or display the current retry counter
TXdelay	30	(0-120 * 10ms) Keyup delay for the transmitter
TXFlow	OFF	Disable flow control to the TNC (Transparent mode)
Unproto	CQ	Path and address to send beacon data
USers	1	Sets the number of streams (links) allowed
Xflow	ON	XON/XOFF Flow control enabled instead of hardware
XMitok	ON	Allow transmitter to come on
XOff	$13	(CTRL-S) Character to stop data from terminal
XON	$11	(CTRL-Q) Character to start data from terminal

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Waiver of Section 97.80(b) and	)	
97.114(b)(4) of the Amateur	)	
Rules to Permit the Retransmission	)	PR Docket No. 85-105
of Third-Party Traffic in Certain	)	
Situations	)	

ORDER

Adopted: March 14, 1986 Released: March 14, 1986

By the Chief, Private Radio Bureau:

1. On February 28, 1986, the American Radio Relay League, Inc. (ARRL) filed a petition for Extraordinary Relief requesting the Commission to temporarily waive Sections 97.80(b) and 97.114(b)(4) of the Rules to permit amateur stations operating in a packet radio network under automatic control to retransmit third-party traffic. The requested waiver would terminate when the Commission adopts a final Order disposing of the petitions for reconsideration filed in PR Docket No. 85-105.[1] In that proceeding, the Commission authorized automatic control for stations transmitting digital communications on amateur frequencies above 50 MHz, but noted that the transmissions of third-party traffic by such stations would require the supervision of the control operator.[2]

2. The prohibition against unsupervised third-party traffic has served to ensure that amateur facilities and frequencies are not used by non- amateurs. Only a person who has demonstrated the proper qualifications may be a control operator of an amateur station. Such control operators screen any third-party traffic to prevent transmissions which are prohibited by Subpart E of the Amateur Rules.

3. Those prohibitions include, but are not limited to, business communications, secret messages, radiocommunications for unlawful purposes and radiocommunication with nations which have not assented to third-party traffic. Self-policing has long been a cornerstone in the integrity of the amateur service. The presense of the responsible licensed control operator at each station has been a vital element in the amateur self-policing tradition. But ARRL, in the instant petition and in its related petition for reconsideration in this proceeding, argues that this safeguard is neither practical nor effective in the context of packet radio technology.

3. In support of the instant petition the ARRL said that the effect of application of traditional third-party traffic control operator requirements to amateur packet radio would severely limit the development of this network for the rapid and accurate relaying of messages and data. The ARRL requested the waiver only for packet radio digital communications using, or compatible with, their AX.25 protocol.[3] The waiver requested by ARRL only relates to the retransmission of messages already properly screened; a control operator will still be required at every amateur station introducing messages into a packet radio system.

4. In view of the above, we believe a temporary waiver is in order until the Commission has evaluated the arguments presented in the subject petitions for reconsideration and issued a ruling on them. Packet radio in the Amateur Service is in the developmental stages. Although interest in this area is intense and growing, there are still only about 14,000 stations, or about 3of those licensed, equipped for packet radio operation. Thus the risks of abuse are minimized by the small scope of packet operation which will obtain during the period of this waiver. In the interim, more experience can be gained with automatic control of stations retransmitting with the AX.25 protocol.

5. Accordingly, the waiver request of the ARRL IS GRANTED to the following extent:

(a) The provisions of section 97.80(b) and 97.114(b)(4) are waived to permit amateur stations, retransmitting digital packet radio communications (see Section 97.69) on frequencies 50 MHz and above, using the AX.25 (or compatible) protocol, to be operated under automatic control while retransmitting third-party traffic. See Section 97.3(v).

(b) This waiver applies only to the retransmission of third-party traffic originated at another amateur station which is under local control or remote control. See Section 97.3(m).

(c) When an amateur station is operated under automatic control, devices must be installed and procedures implemented which will ensure compliance with the rules, when the control operator is not present at the control point of the amateur station. See Section 97.80(a).

(d) This waiver will remain in effect until the Commission takes final action on the petitions for reconsideration filed in PR Docket 85-105.

6. Control operators of amateur stations capable of monitoring AX.25 packet transmissions must be alert to the increased dependency upom them for monitoring during the period of this waiver. We call upon them to immediately make known to the responsible control operator of a station retransmitting communications under automatic control any misuse of the station so that the control operator can take prompt corrective action.

[Signed] Robert S. Foosaner Chief, Private Radio Bureau

[1] Report and Order in PR Docket No. 85-105, adopted January 13, 1986; FCC 86-18; 51 Fed. Reg. 3069, January 23, 1986.

[2] See Sections 97.69(d) and 97.114(b)(4) of the Amateur Rules.

[3] See AX.25 "Amateur Packet Radio Link-Layer Protocol": Version 2.0, Copyright 1984 by the American Radio Relay League; October 1984.

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First Class

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